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COMMENT

Recreating the Western City in a Post-Industrialized World: European Brownfield Policy and an American Comparison

ANDREW O. GUGLIELMI†

INTRODUCTION

My little league baseball team played its games on a large open lot adjacent to a busy railway and the Erie Canal. Linden Baseball Fields, I came to discover from my mother, sat on what was once a landfill and was considered a brownfield site. Some of my best memories as a boy are from little league, and the whole time my teammates and I were most likely playing on top of a foot or two of topsoil, which capped the landfill that once occupied the fields. My experience demonstrates that formerly contaminated land can be utilized for activities besides industry. Recreational, commercial, and residential uses need to be considered if the United States is going to successfully reuse the more than six hundred and fifty thousand brownfield sites¹

† J.D. Candidate 2006, University at Buffalo Law School. I would like to thank Professor Robert Berger for his feedback and support during the comment writing process. I would also like to thank Professor Kurk Dorsey, from the University of New Hampshire's History Department, for his role in shaping my interests in environmental history, law and policy.

1. See Robert A. Simons, John Pendergrass & Kimberly Winson-Geideman, *Quantifying Long-term Environmental Regulatory Risk for Brownfields: Are Reopeners Really an Issue*, 46 J. ENVTL. PLAN. & MGMT. 257, 258 (2003).

believed to be in existence, especially due to the fact that globalization and outsourcing have reduced the demand for heavy industry located in the U.S.

The definition of a brownfield site, according to the EPA and federal law, is “real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.”² The definition is expansive, and includes sites that are simply perceived to contain contamination. These types of sites are included because the risk of liability for a developer or owner in taking possession of a site that is perceived to be contaminated can be almost as great as taking possession of a site which has known contamination. The risk of liability, along with the high and often uncertain cost of cleanup, are key reasons why developers choose to build on greenfields (undeveloped land) instead of brownfields, where the risk of liability from tort suits is not as severe.³ These two factors are not the only reasons that redevelopment of brownfields in the U.S. has been painstaking. Uncertainty and complexity of cleanup standards and length of time needed to get cleanup approved are just two of many considerations affecting developers.⁴ But liability and cleanup costs seem to be the most influential issues in brownfield redevelopment.

What happens in a system where liability is restricted and cleanup costs are to a larger extent publicly subsidized? Europe, with greater tax revenues to spend on cleanup and less of an adversarial liability system, is a part of the world where brownfield redevelopment, in theory, may be more

Estimates on the total amount of brownfield sites range from four hundred thousand to one million in the United States, with these authors' estimation somewhere in between.

2. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601 (2004); U.S. EPA brownfields definition, <http://www.epa.gov/brownfields/glossary.htm> (last visited Sept. 11, 2005).

3. Compare Peter B. Meyer, Kris Wernstedt, & Anna Alberini, *Brownfield Relief*, URBAN LAND, July 2004, at 28 (government support that limits risks and uncertainties valued highly by developers), with Kris Wernstedt & Robert Hersh, *Brownfields Policy Reform in Wisconsin: A New Regulatory Culture*, RESOURCES, Spring 2004, at 16. More than half of developers polled in Wisconsin indicated that high cost of cleanup was very important in constraining brownfield redevelopment. *Id.*

4. See Wernstadt & Hersh, *supra* note 3, at 16. Table 2 displays the most important considerations for Wisconsin developers regarding brownfields.

achievable than in the U.S. Some may argue that a comparative analysis of European brownfield policy to the U.S. is unhelpful because the U.S. has a vast amount of open land, where urban sprawl and development of greenfields is more of an issue than in densely populated Europe, where brownfield redevelopment in urban areas is nearly compulsory. But these arguments fail to recognize that preserving open space and "wilderness" in the U.S. has been an American principle since Theodore Roosevelt and John Muir in the early twentieth century. The principle was later codified through establishment of laws protecting national parks and national wilderness areas.⁵ Successful brownfield redevelopment in the U.S. can bring economic and social benefits to certain regions while protecting an American historical tradition of preserving wild areas. Furthermore, the majority of both the American and European public live in urban areas, and issues involving the psychological and environmental health of the urban citizen through brownfield redevelopment will be common to both regions. Therefore, if U.S. sentiment regarding remediation of brownfields is centered on keeping green space and wild areas intact, while improving city living, using Europe as a comparison can be quite advantageous to U.S. policymakers in terms of influencing development of brownfields over greenfields. Additionally, urban sprawl and development of greenfields are also problems facing countries in Europe, notably Germany.

This Comment will try to find successful aspects of European brownfield redevelopment projects by looking at ways in which the legal structure has fostered remediation of certain sites, and will attempt to find their applicability to U.S. brownfield policy. Part I will briefly give a history of the formation of the European Union (EU) and the evolution of its environmental policies. Part I will also discuss the specific EU legislation and policy toward brownfield redevelopment, and it will describe implementation of EU brownfield policy by certain multinational organizations. Part II will look specifically at Germany as an example of one EU member state's response to the brownfield problem and will also describe various successful

5. See Gregory H. Alpet, *On the Nature of Wildness: Exploring What Wilderness Really Protects*, 76 DENV. U. L. REV. 347 (1999); Wilderness Act of 1964, 16 U.S.C. §§ 1131-36 (1994).

case studies in Germany which have used a regional and integrated approach to redevelopment. Part III will draw comparisons between the EU/Germany approach and the U.S. federal/state approach to brownfield policy and will summarize the successful approaches of both systems. This Comment will focus on European and German policy and will only discuss U.S. policy when drawing comparisons. A comprehensive comparison of both systems is more arduous of a task than can be taken on in this short Comment. This Comment will also focus on urban brownfield policy. Though rural brownfield policy is a problem in both the U.S. and in Europe, urban blight is much more documented and is better fitted to use as a comparison of both systems.

I. EUROPEAN UNION STRUCTURE AND ENVIRONMENTAL POLICY

A. *Formative years*

After World War II, it was apparent to some leaders of Europe that the only way to ensure peace for the future was to unite various European countries economically and politically.⁶ The first way in which cooperation took place, which has special significance in the realm of brownfields, was in the coal and steel industries. The European Coal and Steel Community (ECSC) was formed in 1951 between Belgium, West Germany, Luxembourg, France, Italy, and the Netherlands.⁷ The decisions of the ECSC were made by the "High Authority"; an independent, supranational body that attempted to integrate the coal and steel policy between the member countries.⁸ The "High Authority" was the seed of the economic and political cooperation that evolved into the European Community and the European Union.

During that evolution process, it was evident that the original goal of European integration was to improve the

6. See The History of the European Union, http://europa.eu.int/abc/history/index_en.htm (last visited Sept. 11, 2005).

7. See *id.*; Treaty Instituting the European Coal and Steel Community, Apr. 18, 1951, 261 U.N.T.S. 140.

8. See History of the European Union, *supra* note 6.

common economic health of the continent by creating a common market with little to no trade restrictions.⁹ The treaty of Rome in 1957 created the European Economic Community (EEC), which was committed to fostering the promotion of free trade between member countries.¹⁰ The success of the ECSC, EEC, and other supranational organizations sparked further cooperation among countries in areas outside trade. In 1992, the Maastricht Treaty created community cooperation on defense and areas of justice and home affairs.¹¹ The intergovernmental cooperation in these fundamental areas changed the institution from a European Community into the European Union.¹² Under the Maastricht Treaty, the European Union had organized into an extensive law-making institution, which made policy in areas such as environmental protection, consumer protection, transport, and agricultural policy.¹³ Laws adopted by the EU become part of national law under the Maastricht Treaty and must be complied with by all member countries.¹⁴

B. *Legal Structure*

Law making in the European Union involves three main institutions. Member states transfer part of their own law-making sovereignty to the European Parliament, the Council of the EU, and the European Commission.¹⁵ The European Commission proposes most new laws.¹⁶ The Commission is made up of twenty commissioners

9. See DOROTHY GILLIES, *A GUIDE TO EC ENVIRONMENTAL LAW* 3 (1999) Gillies gives a comprehensive introduction to the environmental policy, structure, and law within the European Community.

10. See *id.*

11. Treaty on European Union, Feb. 7, 1992, 1992 O.J. (C 191) 1, 31 I.L.M. 253 [hereinafter Maastricht Treaty].

12. See History of the European Union, *supra* note 6; see also GILLIES, *supra* note 9, at 3.

13. See Maastricht Treaty, *supra* note 11.

14. See GILLIES, *supra* note 9, at 3.

15. See European Union Institutions and Other Bodies, http://www.europa.eu.int/institutions/index_en.htm (last visited Sept. 10, 2005) [hereinafter Institutions].

16. See GILLIES, *supra* note 9, at 5.

nominated by the governments of the member states, subject to the approval of the European Parliament. The Commission is an independent body committed to serving the interests of the EU as a whole.¹⁷ The Council of the EU and the European Parliament vote and adopt proposals given by the European Commission.¹⁸ The Council represents the interests of the member states through a membership of ministers from each country. For example, if there is a proposal from the Commission regarding an environmental law, all of the Ministers of Environment from each member state will discuss and vote on adoption of the law.¹⁹ The Council usually has the final say on whether a particular law will be adopted, but it shares that responsibility, at times, with the European Parliament.²⁰ For instance, in 1997, under the Amsterdam Treaty,²¹ environmental legislation in the EU began following the co-decision procedure, where both the Council and the European Parliament vote to approve the Commission's proposals.²² The European Parliament is made up of over six hundred members who are elected by the citizens of the European Union and they are committed to serving the interests of the EU citizenry.²³ The Parliament, similar in practice to the United States House of Representatives, plays a consultative role and can influence law-making by publicizing or putting pressure on certain groups or issues.²⁴

Although there are other players in the legislative process of the EU, they are less important in a discussion of EU environmental policy.²⁵ As previously explained, the

17. See *id.* at 4; Institutions, *supra* note 15.

18. See Institutions, *supra* note 15.

19. See GILLIES, *supra* note 9, at 6.

20. See *id.* at 7.

21. Treaty of Amsterdam, Oct. 2, 1997, 1997 O.J. (C 340) 1, 37 I.L.M. 56.

22. See Alfred R. Light, *Environmental Federalism in the United States and the European Union: A Harmonic Convergence?*, 15 ST. THOMAS L. REV. 321, 325-26 (2002).

23. See GILLIES, *supra* note 9, at 7.

24. See *id.*

25. See *id.* at 8-9 (explaining the importance of groups such as the Economic and Social Committee, the Committee of Regions, the European Ombudsman, and the European Environment Agency).

European Community became more than a trade association when it started to adopt treaties based on defense and foreign policy. The EU also became a unique and appropriate body to handle environmental policy. As a supranational organization, the EU can effectively deal with issues of externalities of pollution between different countries and cross-boundary pollution. The EU can also be a forum for environmental problems such as acid rain, where causes and effects can be felt in different countries with differing legal regimes. However, the issue of brownfields presents a more localized problem usually affecting a municipality or a region. This creates difficulties for a supranational organization like the EU, in regard to forming policy that must comport with separate locale's unique characteristics.

The two types of EU environmental legislation are regulations and directives.²⁶ Regulations have the force of law when they are adopted and, like effluent limitations under the Clean Water Act,²⁷ are physically measured and monitored. Directives, on the other hand, are goals that member countries need to meet by enacting national legislation.²⁸ If a country does not enact legislation pursuant to a directive, or the country has delayed implementation unreasonably, the European Commission can bring suit in the EU's Court of Justice to force implementation.²⁹ The environmental legislation of the EU, much like environmental regulation in the U.S., utilizes a carrot-and-stick approach. Regulations bind nations and private parties to certain limits, and directives are more incentive-based policies. However, unlike the U.S., where a state may not find enough of an incentive to comply with a nonbinding federal program,³⁰ noncompliance to a directive in the EU can have repercussions. Besides going to the

26. See Light, *supra* note 22, at 326.

27. Clean Water Act, 33 U.S.C. § 1311 (2000).

28. See Light, *supra* note 22, at 326.

29. See *id.*; GILLIES, *supra* note 9, at 5.

30. Federal road safety programs will withhold federal highway funds if a state refuses to comply with the federal standard. Some states have not found enough of a financial incentive to comply, notably with motorcycle helmet laws in states such as New Hampshire. See, e.g., Charles C. Umbenhauer, *Let Freedom Ride*, USA TODAY, July 2, 2003, at 9A (discussing that before 1995 states had to forfeit highway funds if they refused to issue a helmet law).

Court of Justice, which only happens in rare instances, a common tactic for some member countries is to “name and shame” those countries who do not adopt EU directives, harming that country’s reputation among both its own and European Union citizens.³¹

The final important part of EU structure, especially in a discussion of brownfields, is the financing instruments. The bulk of the EU budget is financed through its own resources, namely taxing procedures. The EU collects customs duties, agricultural duties, sugar levies, the VAT-based resource and the GNI-based resource.³² The GNI is an abbreviation for the Gross National Income of various member states.³³ The EU collects a percentage of the GNI from each member state to fulfill its budgetary needs.³⁴ The funds generated from these resources are collected by the European Parliament. The Commission and the Council set the amount of spending in their agenda, the most recent being Agenda 2000.³⁵ Because the Commission and Council give their agenda before the Parliament collects the resources, the EU knows exactly how much money it needs to collect and bases its GNI-based resource on the difference left to balance the budget.³⁶ There is never a deficit, but the cost of the budget cannot exceed 1.24 percent of the gross income of the EU.³⁷ Although they are still bound by a ceiling, in the EU there is the opportunity to try new and innovative programs, such as brownfield programs, without the American fear of increased debt. Additionally, due to

31. *E.g.*, Mary Raftery, Op-Ed., *Comparing Apples and Oranges*, THE IRISH TIMES, July 15, 2004, at 1, available at 2004 WLNR 4827452. The EU singled out Ireland as part of its “name and shame” policy because Ireland failed to implement EU environmental directives.

32. *See* The Financing Of the European Union’s Budget, http://europa.eu.int/comm/budget/financing/index_en.htm#point_1 (last visited Sept. 10, 2005). The VAT or value added tax, is essentially a sales tax on all products bought and sold within the European Union.

33. *See* How is the European Union Financed?, <http://www.quaker.org/qcea/aroundeurope/2004/267.htm> (last visited Sept. 10, 2005).

34. *See id.*

35. *See* The European Union’s Financial Framework, http://europa.eu.int/comm/budget/financialfrwk/index_en.htm#prop2000 (last visited Sept. 13, 2005).

36. *See* How is the European Union Financed?, *supra* note 33.

37. *See id.*

the fact that the EU is a supranational organization, its funding can go towards environmental or agricultural policies instead of welfare programs in the U.S. such as Social Security. The EU is able to do this because member nations already fund social services for their respective citizens. This is an important difference in a discussion of available funding for brownfield remediation and development.

C. *Environmental Policy*

Before a complete discussion of European Union brownfield policy, the evolution of EU environmental policy needs to be explained. The environmental movement within the European Community started in 1972 with the Paris Summit.³⁸ The Summit voiced similar concerns present in the early 1970s in the United States that triggered adoption of the National Environmental Protection Act (NEPA).³⁹ The idea that economic expansion should be coupled with increased quality of life and environmental protection became important at the Summit. Out of this conference came the Community Environment Policy, which started the first of six Environmental Action Programmes (EAPs).⁴⁰ The Programmes covered conduct for a period of years, and established principles and guidelines that the European Community needed to follow. The EAPs have grown in importance and scope, from the first EAP that laid out general principles to protect clean air and water, to current programs committed to protecting biodiversity of species and minimizing climate change.

Out of these EAPs and the Community Environment Policy have come several fundamental principles of conduct. Some of these principles include: the precautionary principle, the polluter-pays principle, the principle of correction at the source, the principle of sustainable development, the subsidiarity principle, and the principle of

38. See STANLEY P. JOHNSON & GUY CORCELLE, *THE ENVIRONMENTAL POLICY OF THE EUROPEAN COMMUNITIES* 1 (2d ed. 1995).

39. National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. §§ 4321, 4331-35 (2000).

40. See JOHNSON, *supra* note 38, at 1-2.

integration.⁴¹ A discussion of each principle is unnecessary here, but the polluter-pays principle and the principle of subsidiarity are important in EU brownfield legislation. The polluter-pays principle states that those who caused the pollution should bear the consequential costs associated with the pollution.⁴² This is important in assessing liability in the case of contaminated land. Unlike the U.S. brownfield policy that can apply strict liability to past, present, and future owners of a site,⁴³ the polluter-pays principle declares that only the past owner responsible for the contamination should have to pay for remediation. The subsidiarity principle is the idea that only those tasks that cannot be dealt with at a lower level of government should be dealt with at a higher level.⁴⁴ This principle is an essential consideration in brownfield redevelopment because it is contentious on which level of government, (i.e., supranational, national, regional, or local) should pursue and oversee brownfield projects.

D. *Brownfield Policy*

European Union legislation regarding brownfield redevelopment is scant. This is most likely due to the fact that the brownfield issue is still fairly new. First, the EU does not use the word "brownfield" in most of its legislation or policy. Instead, "derelict" or "contaminated" land seems to be used more often. There does not seem to be any substantive difference between these terms, as they are used interchangeably. Regardless, the focus at the EU level is to remediate land in cities to promote sustainable urban development. The issue of brownfields is part of the EU's Sixth EAP, specifically the "Thematic Strategy on the

41. See generally Hauke von Seht & Dr. Hermann E. Ott, *EU environmental principles: Implementation in Germany*, in WUPPERTAL PAPERS, July 2000 (giving short summaries of each environmental principle and their practice in Germany).

42. See *id.* at 12.

43. See Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, 42 U.S.C. § 9607 (2000). All past owners are not automatically liable, they could have the benefit of the innocent landowner defense if they undertook all appropriate inquiry prior to purchase, or through the secured lender exemption.

44. See von Seht, *supra* note 41, at 22.

Urban Environment,” one of seven thematic strategies in the Programme.⁴⁵ Eighty percent of Europe’s citizens live in urban areas, and the European Union is committed to securing a healthy living environment for the urban citizen.⁴⁶

To that end, in a communication from the Commission to the Parliament, Council, and Committees on Economics, Society, and Regions in February of 2004, the Commission believed that the EU must focus on an integrated approach to urban management, which would enhance coordination and cooperation between all levels of government.⁴⁷ The Commission proposed that each municipality over one hundred thousand inhabitants would need to develop an environmental management plan that considered all aspects of urban life including: air, water, and land quality, infrastructure, energy, green space, and derelict and abandoned land.⁴⁸ This plan would force several different administrative agencies within the municipality to discuss and coordinate their efforts. Such coordination of local government has been a problem in United States brownfield policy as well, with brownfield problems usually being handled by an environmental department without consultation with a planning or real estate department.

In the Communication on the Urban Environment, the Commission specifically discussed the impact that brownfield sites have on urban sprawl.⁴⁹ They spur social segregation by inducing affluent citizens to move away from brownfields while increasing sprawl by forcing these affluent citizens to drive farther for work, goods, and services.⁵⁰ When population density falls below fifty to sixty

45. See *Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: Towards a Thematic Strategy on the Urban Environment*, COM(2004)60 final (Nov. 2, 2004), available at http://europa.eu.int/urlex/en/com/cnc/2004/com2004_0060en01.pdf [hereinafter *Communication*].

46. See *id.* at 3-4.

47. See *id.* at 4.

48. See *id.* at 5, 10.

49. See *id.* at 29 (citing the URBAN II initiative as a means to bring mixed-use brownfield redevelopment, with a holistic transport policy, to stem urban sprawl).

50. See *id.* at 26.

people per hectare, there is a sharp increase in car use.⁵¹ Increased car use causes a multitude of additional urban problems, including increased air pollution, traffic congestion, and road maintenance.

In addition to curbing car use through reuse of derelict land and a focus on public transportation, the Commission believes that an ample amount of green space within the city can become a loved and distinctive feature in an urban area to draw in more residents.⁵² Green spaces can increase the quality of life for urban citizens through social interaction, relaxation, and can give them an increased appreciation for wider environmental issues.⁵³ As one urban planner noted, “[N]ature in cities can provide aesthetic stimulus by reducing the inhuman scale of urban space, and by creating the micro-habitats which enable man to relate to his environment.”⁵⁴ The integrated, holistic, mixed-use approach to urban management is not part of any EU law or directive. The EU hopes to include in its “Thematic Strategy on Urban Environment” a framework that would facilitate implementation of an integrated environmental management plan in European localities.⁵⁵

However, the Committee of Regions attacked the notion that the EU should enact a community-wide framework for mixed use spatial planning, with brownfield and greenfield definitions, because it thought those decisions were best left to national, state, and local governments.⁵⁶ The Committee

51. *See id.* at 25. Figure 2 shows the relationship between population density and use of gasoline for car travel. United States cities have lower population densities and higher petrol use, while European and Asian cities show the opposite trend.

52. *See id.* at 27.

53. *See id.*

54. NATURE IN CITIES: THE NATURAL ENVIRONMENT IN THE DESIGN AND DEVELOPMENT OF URBAN GREEN SPACE xvii (Ian C. Laurie ed., 1979).

55. *See Communication, supra* note 45, at 5, 29. The framework would be part of the Thematic Strategy, and it would include a plan for a contaminated land policy.

56. *See* Opinion of the Committee of the Regions on the Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions—Towards a Thematic Strategy on the Urban Environment, 2005 O.J. (C 43) 37, available at http://europa.eu.int/eur-lex/lex/LexUriServ/site/en/oj/2005/c_043/c_04320050218en00350038.pdf [hereinafter Opinion of the Committee of the Regions].

of Regions obviously feels that brownfield redevelopment will be different for each locale based on its governance and topography. This consideration will also be important in the Sixth EAP's soil protection strategies. The EU is considering certain universal soil protection measures that could both be seen as stepping into the roles of town and country planning agencies in member states and as a violation of the principle of subsidiarity.⁵⁷ The tension between uniform EU standards and national or local standards may force the EU, for the time being, to be financier instead of coordinator of brownfield initiatives.

The European Union has a decision in place that funds community cooperation between local authorities, private stakeholders, NGOs, and universities pursuing brownfield redevelopment. In 2001, the Council and the Parliament passed a decision that gives EU funding to any coalition of local authorities between at least four member states that is committed to fostering a transfrontier and transnational approach to urban management.⁵⁸ The decision is in line with the principle of subsidiarity because it pushes local or regional solutions to urban management. The Commission decides which groups get funding based on various criteria including a sound cost-benefit ratio, financial and administrative cooperation between the various partners, and contribution to an integrated multi-sectoral approach to urban development.⁵⁹ The purpose of this funding decision is to find enthusiastic stakeholders who can begin to research and initiate the debate on the best tools and indicators of successful urban management.

E. *Research Organizations*

One such research project, which is supported by the European Commission, and has a specific focus on

57. See Geert van Calster, *Will the EC Get a Finger in Each Pie? EC Law and Policy Developments in Soil Protection and Brownfields Redevelopment*, 16 J. ENVTL. L. 3, 13 (2004).

58. See Decision No 1411/2001/EC of the European Parliament and of the Council of 27 June 2001: On a Community Framework for Cooperation to Promote Sustainable Urban Development, 2001 O.J. (L 191), available at http://europa.eu.int/eurlex/pri/en/oj/dat/2001/l_191/l_19120010713en00010005.pdf.

59. See *id.* at 3.

brownfields, is the group RESCUE (Regeneration of European Sites in Cities and Urban Environments).⁶⁰ RESCUE is a group of experts who examine case studies in France, England, Poland, and Germany to find common trends in brownfield redevelopment. The thirty-six month project, started in 2002, is planning on compiling its research into a "Manual of a European System Approach for Sustainable Brownfield Regeneration."⁶¹ The Manual will provide scientific and practical guidance for private stakeholders, local governments, and funding bodies on the best practices and evaluation criteria for brownfield remediation.⁶² RESCUE's objective is to make brownfield redevelopment a key part of the European Union's strategy on sustainable urban development and to show the EU what tools are necessary to maintain sustainability.⁶³ The eight case studies, two from each country, are analyzed to obtain the most widely available range of remediation approaches and decisions.⁶⁴ The two case studies chosen by Germany, at the industrial Ruhr area in Western Germany and at the Southern District of Leipzig in former East Germany, will be examined closely in the following section. RESCUE is committed to using its research for an integrated and holistic approach to brownfield redevelopment, but the group does not deny that sustainability can and is measured differently in different locations. The RESCUE coordinator, Mr. Gernot Pahlen, explained that "sustainability cannot be defined generally for all brownfield projects since a land use, design or methodology that proved to be suitable at one site is not necessarily appropriate for another site, another context, another time or another mix of stakeholders with a different set of

60. See RESCUE (Regeneration of European Sites in Cities and Urban Environments) at http://www.rescue-europe.com/index_mf.html (last visited Sept. 10, 2005).

61. See *id.* The reader should use the hyperlink entitled "Rescue/The Project" in order to learn more about the manual.

62. See *id.*

63. See *id.* The two graphics show the objectives and tools necessary for successful brownfield projects.

64. See RESCUE, Regions/Case Studies, <http://www.rescue-europe.com/html/regions.html> (last visited Sept. 10, 2005).

priorities.”⁶⁵ The EU has to be open to different levels and definitions of sustainability if brownfield redevelopment is going to be feasible, especially in the poorer Eastern European countries that are new members of the EU.⁶⁶

Another brownfields group, funded by the Environment and Climate Programme of the European Commission, is CLARINET (Contaminated Land Rehabilitation Network for Environmental Technologies). This group, in 2002, published a report on “Brownfield Redevelopment” based on research performed by academics, national policymakers, government experts, consultants, and industrial landowners from sixteen European countries.⁶⁷ CLARINET echoed the beliefs of RESCUE that successful redevelopment needs to foster cooperation between competing interests and must look at a city or region holistically in order to know where and how projects should be chosen. CLARINET also made the determination that policies regarding brownfields were only present in the most industrialized countries. However, these countries had no national plan for brownfields, only piecemeal support for various local or regional efforts.⁶⁸ CLARINET made an important distinction in its report that has implications in a comparison of European and United States brownfield policy. Brownfields, according to the report, are both an ecological problem in relation to human health and a spatial planning problem.⁶⁹ CLARINET proposes that successful brownfield redevelopment needs to have an integrated approach that addresses environmental and

65. Letter from RESCUE Coordinator on Comments to European Commission’s Communication, “Toward a Thematic Strategy on the Urban Environment” http://europa.eu.int/comm/environment/urban/pdf/stakeholder_consultation/rescue.pdf (last visited Sept. 10, 2005).

66. See *Opinion of the Committee of the Regions*, *supra* note 56; see also Overviews of the European Union Activities: Enlargement, http://www.europa.eu.int/pol/enlarg/overview_en.htm (last visited Sept. 11, 2005) (listing the new members of the European Union, mostly from Eastern Europe).

67. See BROWNFIELDS AND REDEVELOPMENT OF URBAN AREAS: A REPORT FROM THE CONTAMINATED LAND REHABILITATION NETWORK FOR ENVIRONMENTAL TECHNOLOGIES (Aug. 2005), <http://www.clarinet.at/library/brownfields.pdf> at Foreword [hereinafter CLARINET].

68. See *id.* at 1.

69. See *id.* at 4.

spatial planning problems simultaneously.⁷⁰ Due to the fact that U.S. brownfield policy grew out of the Superfund program,⁷¹ with an emphasis originally on environmental cleanup and remediation, the spatial planning aspects of brownfield redevelopment were to a large extent ignored. This issue will be discussed at length in Part III.

The research by both RESCUE and CLARINET demonstrates that European brownfield policy is still in its preliminary stages. Both groups believe that more research and sharing of information is necessary to find sustainability within the European Commission's "Thematic Strategy on the Urban Environment." One advantage of the European program, over the American program, is that the EU does not already have an administrative and legal structure in place that determines the priorities for brownfield redevelopment (i.e., remediation and cleanup over planning). The European Union can alter its approach as successes and failures are analyzed. The EU's focus is also not simply to create jobs and bring a higher tax base into a formerly contaminated urban land, but also to preserve and build green space, maintain social equity, and harness transportation opportunities to create sustainable and environmentally sound urban atmosphere. Although the European Union can stimulate research and outline general brownfields policies, it cannot successfully help to regenerate derelict land without the member states' support and leadership. Brownfields are, literally, a localized problem and they need localized attention.

II. GERMAN BROWNFIELD POLICY AND CASE STUDIES

A. *German Governance and Brownfield Law*

Germany is an appropriate country to use for a comparison of United States brownfield policy because it industrialized in the same way as the U.S. and now parts of Germany are suffering "Rust Belt" problems similar to

70. *See id.*

71. *See* Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9607-75 (2000).

those problems in the Great Lakes region of the U.S. The ECSC in the 1950s may have helped to foster the cooperation and integration that led to the formation of the European Union,⁷² but it protected commercial coal and steel interests that directly caused severe contamination and left derelict brownfield sites in several places in Germany.

In addition to the fact that historical and industrial changes in Germany paralleled those that occurred in the U.S., both countries are currently dealing with similar problems of urban sprawl and high private car use. Germany consumes the highest amount of greenfield land in Europe. An estimated one hundred and twenty-nine hectares per day of greenfield land is lost for building purposes.⁷³ Germany also has the highest car ownership rate in Europe; by 1994 parts of western Germany reached five-hundred cars per one thousand inhabitants.⁷⁴

The increased mobility in Germany has led to flight from urban cores where air pollution, derelict land, and little aesthetic beauty make city living less attractive. Single-family dwellings are consuming large chunks of the countryside.⁷⁵ Germany also is a good country for comparison because it has an immense amount of contaminated sites for its size. Germany has about three hundred and sixty-two thousand contaminated sites that cover one hundred and twenty-eight thousand hectares.⁷⁶

Along with comparable brownfields issues, the structure of Germany's government also makes it uniquely suited to comparison with the U.S. Germany has a similar

72. See *supra* Part I and notes 6-7.

73. See CLARINET, *supra* note 67, at 3.

74. See ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, URBAN POLICY IN GERMANY: TOWARDS SUSTAINABLE DEVELOPMENT 74 (1999) [hereinafter OECD].

75. See REPORT ON A JOHN J. MCCLOY FELLOWSHIP OF THE AMERICAN COUNCIL ON GERMANY (ACG), LAND MANAGEMENT/SITE RECYCLING: CURRENT OBSTACLES IN GERMAN CITIES AND ATTEMPTS TO REMOVE THEM, TRANSATLANTIC SHARING OF APPROACHES, STRATEGIES AND VISIONS 2 (2001) [hereinafter MCCLOY].

76. REPORT BY THE NATIONAL ROUND TABLE ON THE ENVIRONMENT AND ECONOMY, CLEANING UP THE PAST, BUILDING THE FUTURE, A NATIONAL BROWNFIELD REDEVELOPMENT STRATEGY FOR CANADA A-27 (2003) [hereinafter NATIONAL ROUND TABLE].

vertical and hierarchical structure of government; with the federal government above state/provincial governments called the *Länder*, and the *Länder* above municipal governments. The interactions and conflicts between the federal government, the *Länder*, and the municipalities are often similar to the U.S. brownfield experience. Moreover, the municipalities in Germany are autonomous entities, and they can make their own law for municipal affairs, which is similar to home rule charters in U.S. municipalities.⁷⁷ German municipalities take on the responsibility of urban planning and perform “dual functions” of enforcing their own law and certain administrative tasks given to them by the state.⁷⁸

One reason that Germany is not a well-fitted country for comparison is that Germany has no set of laws governing “brownfields.” Germany does not have a specific contaminated land policy at the federal level like the U.S. CERCLA statute.⁷⁹ There are several laws, including soil preservation and building code laws, that can have an effect on brownfield redevelopment, but there is no specific legislation on brownfields.⁸⁰ This is not to say that Germany has not been active in forming a brownfield policy. Rather, it seems to take a position similar to the EU, that brownfield projects should be included in larger urban planning schemes to promote sustainability.

The German Federal Land Conservation Law, passed in 1999, includes some regulations for proactive land conservation and regulations governing contaminated brownfield cleanup.⁸¹ The Federal Soil Conservation Act, which preceded the Land Conservation Law, includes similar regulations governing cleanup. Importantly, these two laws set uniform national standards for cleanup, instead of allowing each of the *Länder* to promulgate their

77. See FEDERAL MINISTRY FOR REGIONAL PLANNING, BUILDING AND URBAN DEVELOPMENT, *THE FRAMEWORK CONDITIONS AFFECTING URBAN DEVELOPMENT IN THE FEDERAL REPUBLIC OF GERMANY: URBAN PLANNING LAW 9* (Dr. Carl-Heinz David ed., Dr. Graham Cass trans., 1993).

78. See *id.*

79. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9607-75 (2000).

80. See NATIONAL ROUND TABLE, *supra* note 76, at A-27.

81. See JOHN G. MCCLOY, *supra* note 75, at 3.

own standards. This provides investors with greater legal security, making calculation of risk more concrete and manageable.⁸² The U.S. does not have uniform cleanup standards for brownfields, as it lets the states determine cleanup levels. This may be a factor contributing to the uncertain risk of liability that deters potential investors.

The German Soil Conservation Act even contains a provision that allows the government to unseal sealed land, after due process, if it furthers the public interest.⁸³ This power allows the federal government to regulate erosion and runoff through removal of concrete and asphalt structures in a way that seems to conflict with the American property system, but it is another way that Germany can use a holistic and centralized approach to urban management. The law also contains provisions that force an individual remediating contaminated land to submit a proposal that: shows risk assessment, explains old and future uses, and contains self-monitoring measures.⁸⁴

The other important law that has an effect on brownfield redevelopment in Germany is the Federal Building Code.⁸⁵ The Code is the framework which local governments use to plan construction of a city. Although it seemingly has no substantive requirements in relation to municipal brownfield redevelopment, Article 1, paragraph 5 of the Code indicates that sustainable urban development should address the relationship between places of work and residence, the cultural significance of buildings, affordability of housing, environmental protection, and efficient use of natural resources.⁸⁶ The Code was amended in 1971 to include a measure, called Urban Development Assistance, which was a funding program where the federal

82. See OECD, *supra* note 74, at 68-69.

83. Bodenschutzgesetz [BBodSchG] [Federal Soil Protection Act] Mar. 18, 1998 BGBl.I 502, Article 5 *available at* <http://www.iuscomp.org/gla/> (Use the hyperlink "Statutes," then scroll down to environmental statutes to find the Soil Preservation Act).

84. See *id.* at Article 4.

85. See Baugesetzbuch [BauGB] [Federal Building Code] Aug. 18, 1997, Bundesgesetzblatt.I [BGBl.I], *available at* <http://www.iuscomp.org/gla/> (Use the hyperlink "Statutes," then scroll down to the planning and construction law statutes to find the Building Code).

86. See OECD, *supra* note 74, at 38.

government gives money to the *Länder*. This money is for projects that target a clearly defined area with an emphasis on building spaces for work, residence, and recreation.⁸⁷ The Assistance Program has had a positive impact on employment, economic, and structural policy, and it is an opportunity for the local governments interested in a brownfield site to find additional public funding.

The Assistance Program is one of many funding programs used by member states that can be subject to scrutiny by the European Union. There are restrictions on State Aid built into the EU's rules that force national governments to put the European Commission on notice of the amount and types of aid allocated to domestic projects.⁸⁸ The reason for restricting State Aid Programs is that they can threaten an open market system between the European Community by favoring certain goods and undertakings in one country over those in another.⁸⁹ These rules are similar in practice to the Dormant Commerce Clause jurisprudence in the U.S.⁹⁰ The restrictions on State Aid could be a hurdle for certain nations like Germany from enacting a national brownfields policy. For example, if the European Commission, in its discretion, believes that a German brownfields policy that includes State Aid will give an unfair advantage to certain German exports, then the Commission can disallow the policy.⁹¹ However, the Commission is reluctant to act, as long as it is put on notice and the policy does not directly affect the trade between member states.⁹² There are also several exceptions to the rules against State Aid, including aid to promote economic development in an area of low standard of living or high unemployment, and aid to

87. *See id.* at 42.

88. *See van Calster, supra* note 57, at 4-5.

89. *See id.* (quoting Article 87 of the EC Treaty Articles and Commission guidelines dealing with State Aid).

90. State and local laws which show bias are ruled unconstitutional because they unduly burden interstate commerce. *See, e.g., City of Philadelphia v. New Jersey*, 437 U.S. 617 (1978) (holding that a New Jersey Statute that restricted the import of waste produced outside its borders was a violation of the Commerce Clause).

91. *See van Calster, supra* note 57, at 5.

92. *See id.*

promote cultural and heritage conservation.⁹³ A funding program within a brownfield policy could be limited to the exceptions above to avoid the issues with State Aid restrictions. Moreover, brownfield projects should be focused on low income areas to promote cultural and historical preservation because these are typically the areas that have been ecologically, socially, and economically stripped by past industries.

Returning to an examination of German law, there are many *Länder* and municipal laws, including zoning, that have effects on brownfields. An examination of all of them would be too lengthy here. The *Länder* are responsible for implementing the regulations in the Federal Soil Conservation Act and for registering all of the suspected contaminated sites. The *Länder* also must clean up orphan sites where the polluter cannot be identified, though they can apply for federal support in that instance.⁹⁴ In sum, the German federal government lays out the programs and the funds available for urban development, and the *Länder* and municipality are responsible for implementation and appropriation of the funds to the specific sites. In this respect, the German approach is quite similar to the U.S. approach. The funding for remediation of contaminated sites comes from the U.S. federal government through the Superfund and the EPA, with various state "mini" Superfund Programs and responsible parties financing the rest.⁹⁵ The actual remediation of these sites is usually left to state or local environmental agencies, and many of the substantive decisions for remediation and development are left to the municipality. This type of approach common to the U.S. and Germany is not the only option. For example, Britain has a much more centralized policy for brownfield redevelopment. The British federal government mandated that by 2008, sixty percent of all new homes built in England would be constructed on formerly developed land

93. *See id.*

94. *See* OECD, *supra* note 74, at 69.

95. *See* Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9607 (2000); NEW YORK STATE DEPT OF ENVTL. CONSERVATION, DIV. OF ENVTL. REMEDIATION, NEW YORK STATE INACTIVE HAZARDOUS WASTE DISPOSAL SITE REMEDIAL PLAN 19 (2000) (discussing the amount of funding that came from federal, state and private sources).

or through conversion of pre-existing buildings.⁹⁶ The British example, although intriguing, might be overly optimistic and broad, because it does not allow for variances in certain locales that need a unique and specialized brownfield redevelopment plan.

B. *Case Studies of Brownfield Redevelopment in Germany*

An examination of concrete examples of brownfield redevelopment projects will give a fuller picture of German brownfield policy. The two case studies that RESCUE chose to examine in Germany are appropriate sites to consider. First, the Emscher Park project in the Ruhr region of Northwest Germany is an example of brownfield remediation in a region with a long history of coal and steel production, which has contaminated a large amount of land. The second case study is in former East Germany in the Southern District of Leipzig, where open mining activities have left vast empty pits, which not only hold potential contamination, but are an eyesore harming future development of the land. Finally, an examination of the regeneration and development in Berlin, the largest city in Germany, will be beneficial for comparison to larger United States cities. All these sites, despite the fact that they are in different in size and in their respective stages of remediation and development, exemplify the three-tiered theme of German urban sustainability: the ecological focus on prevention of urban sprawl and green space consumption, the economic focus on encouragement of investment and job creation, and the social focus on remediation that will comport with residents' social and historical identity while creating a healthy and attractive living environment.⁹⁷

1. *Emscher Park*. The status of the Ruhr region, in the state of Northrhine-Westphalia, is typical of regions that were dependent upon the coal and steel industries for its livelihood. Coal, iron, and steel production in the region in the nineteenth century influenced rapid growth, but in the

96. See DAVID ADAMS & CRAIG WATKINS, GREENFIELDS, BROWNFIELDS AND HOUSING DEVELOPMENT 211 (2002).

97. See McCLOY *supra* note 75, at 4.

1950s and 1960s cheaper fuels, including natural gas and oil, led to competition which initiated a steady decline in the region that has continued into present day.⁹⁸ The decline in growth and increase in competition led to the closing of many coal and steel companies, and increasing unemployment in the region up to twenty percent in the 1980s.⁹⁹ A decrease in population coupled with an increase in sprawl in the region, made rehabilitation of brownfield sites integral for a sustainable urban area.

The Emscher Park region is an eight hundred square kilometer portion of the Ruhr River District, with a population around two million.¹⁰⁰ Contamination from coal, steel, and iron plants harmed both the land in Emscher, and the three hundred and fifty kilometers of rivers and streams that were essentially an open sewer through most of the twentieth century.¹⁰¹ The state of Northrhine-Westphalia took several actions to reinvigorate and bring a sustainable focus back to the Emscher region. First, in the 1960s, they set up universities in four major cities in the Ruhr region to bring continuing research and economic development into the area.¹⁰² Second, they set up a property fund so that local governments could buy up derelict land for redevelopment.¹⁰³ Most importantly, in 1988 the state teamed up with the International Building Exhibition (IBA) and used its public real estate management group, the *Landesentwicklungsgesellschaft NRW GmbH* (LEG), to embark on an aggressive redevelopment plan that would entail innovative reuse of the abandoned and derelict infrastructure.¹⁰⁴

98. See Robert Shaw, *The International Building Exhibition (IBA) Emscher Park, Germany: A Model for Sustainable Restructuring?* 10 EUR. PLAN. STUD. 77, 81 (2002).

99. See James A. Kushner, *Evolving Voices In Land Use Law: A Festschrift In Honor Of Daniel R. Mandelker: Part V: International Perspectives: Chapter 13: Germany: Social Sustainability: Planning For Growth In Distressed Places--The German Experience In Berlin, Wittenberg, And The Ruhr*, 3 WASH. U. J.L. & POL'Y 849, 860 (2000).

100. See Shaw, *supra* note 98, at 81.

101. See 74 EXTREME SITES: THE "GREENING" OF BROWNFIELD 51 (Deborah Gans & Claire Weisz eds., Mar./Apr. 2004) [hereinafter EXTREME SITES].

102. See Shaw, *supra* note 98, at 81.

103. See *id.*

104. See Kushner, *supra* note 99, at 861.

The IBA was the most important player in the brownfield redevelopment of Emscher. The International Exhibition lasted from 1989 to 1999, and it had the goal of "urban development, social, cultural, ecological measures as the basis for economic change in an old industrial region."¹⁰⁵ IBA Emscher Park was financed by both public and private sources, with the EU contributing three hundred and fifty million Deutschmarks (DM) and private sources accounting for one-third of the more than five billion DM that were invested in the project.¹⁰⁶ The project exemplified a bottom-up approach to redevelopment with IBA receiving proposals from towns, companies, NGOs, and private individuals. The IBA approved more than one hundred and twenty of these proposals, most of which were carried out by the public sector.¹⁰⁷ By allowing proposals from interested individuals, the IBA and the *Länder* successfully gained community support for the projects it oversaw, while maintaining enough advisory control to shape the redevelopment in its discretion.

The approach of IBA Emscher has been heralded as one of the most innovative and unique approaches to brownfield redevelopment that has ever been performed. A key part of the redevelopment was to leave much of the ten thousand hectares of land contaminated. The IBA will leave this land to be overseen by the Forest Administration in an attempt to have remediation occur through natural processes.¹⁰⁸ This approach to remediation has not only an ecological, but a practical and efficiency component. One IBA Emscher official noted that, "it would have been meaningless to attempt to reclaim all the contaminated land and spend hundreds of thousands of marks and 20 years in the process, to only end up with decontaminated soil but no projects."¹⁰⁹ This practical consideration could be considered by U.S. policymakers, but it conflicts with the CERCLA statute's focus on remediation and cleanup prior to

105. See Shaw, *supra* note 98, at 84

106. See *id.* at 85; OECD, *supra* note 74, at 73.

107. See Shaw, *supra* note 98, at 84

108. See EXTREME SITES, *supra* note 101, at 51.

109. *Id.*

redevelopment, and it could present a very real human health hazard.¹¹⁰

IBA recognized that remediation was necessary in rivers and green corridors that had been contaminated by years of industrial pressure. Improving the region's water quality was essential to revive an urban community and attract new citizens to live in new and refurbished residential units.¹¹¹ To this end, a new sewage treatment plant was built at the confluence of the Emscher and the Rhine and a Landscape Park was constructed along seven green corridors.¹¹² The Landscape Park has been the most well known aspect of IBA Emscher because it left many old industrial structures in place. IBA wanted to leave these structures for recreation and cultural purposes. They believed that an environment that embraced the historical and cultural industrial identity of the region would result in a renewed sense of place and community. For example, they left a blast furnace intact for children to climb and slide down a chute. They turned old iron pits and steel works plants into outdoor theatres and concert halls. They even filled a large old gas tank with water and a sunken ship to be used for recreational scuba diving.¹¹³ Whether or not leaving these structures in place will lead to a greater sense of community remains to be seen, but the strategy comports with the ecological component of urban sustainability; to reuse not just the land, but the capital and resources already put into buildings constructed years earlier.

IBA Emscher also pursued the social and economic components of sustainability through the Landscape Park. The "Working in the Park" program designated twenty-two former industrial sites for development of service,

110. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9607 (2000). The focus on cleanup stems from the Superfund's financing for remediation of the highly contaminated sites that are part of the National Priorities List (NPL). NPL sites have to be cleaned up to an extremely high level, but various state superfund and brownfield programs allow cleanup levels to vary based on the future use of the land (i.e., residential, recreational, industrial).

111. See Tony Barber, *River Clean-up Operation Revitalizes Environment*, THE FINANCIAL TIMES, Mar. 13, 2000, at 8.

112. See EXTREME SITES, *supra* note 101, at 52.

113. See Kushner, *supra* note 99, at 862.

commercial, eco-technology, and museum industries.¹¹⁴ This program led to some job creation in the region, and the emergence of companies committed to promoting solar technology.¹¹⁵ The “Housing and Integrated Urban District Development” project both restored some old worker settlements and built new housing projects along green corridors.¹¹⁶ These two programs under IBA Emscher were part of a larger and integrated effort to increase the quality of life for residents, not only economically, but aesthetically and psychologically through their natural and man-made environment. This integrated and holistic view is in line with both German and the EU’s policies on sustainable urban development. The IBA Emscher project did not simply focus on large-scale industrial redevelopment. Instead, it pursued the three-tiered approach to sustainability while realizing innovative ways to retain the regions cultural identity.

The IBA project is not without its shortcomings and criticisms. First, some critics in the region believe that IBA Emscher was an elitist initiative focused on culture, recreation, and tourism instead of the community and residents of the region.¹¹⁷ Some residents opposed the approach of IBA Emscher because it did not focus on job creation and economic revitalization to stem the high unemployment and distress of many citizens. Critics say that people need jobs and income before culture, leisure, and tourism can be successful.¹¹⁸ Secondly, the IBA lost focus of a vital aspect of sustainability, namely transportation. Although the green corridors and the river are available for pedestrian and boat transport, there is still a high reliance on car travel. The fact that employment, retail, and leisure activities are not close to people’s homes will increase car use.¹¹⁹ A high network density of road infrastructure would reduce car use by enabling connectivity between places of work, employment, and

114. See *EXTREME SITES*, *supra* note 101, at 52.

115. See *id.* at 60.

116. See *id.* at 53.

117. See Shaw, *supra* note 98, at 91.

118. See *id.* at 89.

119. See *id.* at 91.

commerce.¹²⁰ Additionally, shifting demand away from roads and focusing on promoting public transportation through rails or ferries could help to curb the problem.

Despite its shortcomings, IBA Emscher built a foundation of ecological, environmental, and social networks that could help to revitalize the region in the future. As more learn of the innovative and artistic structures retained in the Landscape Park, tourism will grow and developers will become more interested in the region.¹²¹ The project created the skeleton of a region connected with industry, green space, and housing that could redefine a community formerly focused on industry and commerce, into a community focused on green initiatives and sustainability. One IBA official expressed this transformation, as an observer paraphrased his comments saying, "the greatest threat to the . . . Emscher region is the arrival of investors bent on conventional large-scale development who, like the industrialist colonisers of the last century, are uncomprehending of the integrated landscape they find before them."¹²² The IBA Emscher project is an atypical example of brownfield redevelopment because it flips traditional development principles on their head, by promoting cultural and social development before economic development.

2. *Leipzig*. The Leipzig case study has the same integrated focus that was found in IBA Emscher. Unlike the Emscher project, the Leipzig case study does not have the same notoriety or international attention due to the fact that it is still in its planning stages and is not an international exhibition. Although the Leipzig case study is much less documented than IBA Emscher, it is an important example of the difficulty that Germany continues to face after reunification. Lack of environmental policies in the former eastern socialist regime left much of the land severely contaminated. Reunification has led to major federal investment in infrastructure, regeneration, and housing in former East Germany. Although this funding has been a strain on Germany's economy, it may have given Germany an advantage as a country more experienced in

120. See OECD, *supra* note 74, at 75.

121. See Shaw, *supra* note 98, at 88.

122. EXTREME SITES, *supra* note 101, at 53.

brownfield redevelopment, having to deal with these issues for over a decade in the new eastern *Länder*.¹²³

Leipzig also contrasts with Emscher because it is located in a rural area, with only around one hundred and ten thousand people in the region.¹²⁴ The contamination and environmental devastation, however, rivals that of the Ruhr region. Large scale, open cast mining was the single industry in the region, resulting in the destruction of sixty to seventy towns and villages and the forcible relocation of twenty-four thousand people during the socialist regime.¹²⁵ After reunification the mono-structure of Leipzig's economy was no longer viable and almost all of the mines and industrial plants have closed.¹²⁶ The mines, mostly to the south of the Leipzig city center, have left behind massive open pits that are both useless for Leipzig's infrastructure and horribly ugly.

A proposal in 1994 by an international planning exhibition was to fill the open pits with water and construct a lake district that would cover a surface area of forty square kilometers.¹²⁷ This process has already begun and there is a new regional development agency in place to coordinate redevelopment in an integrated manner.¹²⁸ One idea was to connect the lakes with channels dug from old machines left on the mining sites. The water connection would promote a distinctive island-type lifestyle with transport by boat and bridge.¹²⁹ The ecological and social components of sustainability would be furthered by development of green areas along the shores of the lakes and the presence of recreational water activities including boating, fishing, and swimming. The project would also stem urban sprawl by preserving green space through the formation of a pattern of settlement south of Leipzig, where

123. See OECD, *supra* note 74, at 11.

124. See Regeneration of European Sites in Cities and Urban Environments (RESCUE), Regions/Case Studies, http://www.rescue-europe.com/html/germany.html#project_b (last visited Oct. 24, 2005) [hereinafter RESCUE].

125. See *id.*; EXTREME SITES, *supra* note 101, at 65.

126. See RESCUE, *supra* note 124.

127. See *id.*; EXTREME SITES, *supra* note 101, at 65.

128. See RESCUE, *supra* note 124.

129. See EXTREME SITES, *supra* note 101, at 65.

development has already taken place.¹³⁰ Although the proposals are all innovative and ecologically sustainable, they seem to neglect the economic component of creation of new jobs in Leipzig. Nevertheless, Leipzig, like IBA Emscher, is an example of a creative approach to regeneration of derelict land with a focus on aesthetics, art, and the psychological health of the citizens.

3. *Berlin: Rummelsburger Bucht.* The story of Berlin is quite different than that of Leipzig or Emscher, but the same themes of sustainability emerge. Berlin is the largest city in Germany, and it is a microcosm for the larger issues that faced Germany after the fall of the Berlin wall in 1989. The economic, cultural, and social reunification of Berlin remains an arduous task for city leaders who have to break down figurative walls separating mentalities and societies for forty years.¹³¹ In addition to being a laboratory for overcoming differences between the two dominant systems of the twentieth century,¹³² Berlin is an ideal location to analyze successes and failures in brownfield planning and redevelopment. For example, in the *Johannisthal-Adlershof* district of East Berlin, jobs which numbered approximately twenty-six thousand during the former regime sank to sixty-five hundred after reunification.¹³³ The lack of a workforce precipitated the closing of many factories, and by 1995 some one hundred and eighty sites in the *Johannisthal-Adlershof* district laid derelict.¹³⁴ Leaders of Berlin are committed to redeveloping and reusing derelict sites to promote sustainability. Among other projects in the city, is a project to turn an unused airfield into a natural landscape park with integrated and protected biotope areas.¹³⁵ These policies mirror the three-tiered approach seen in Emscher and Leipzig.

130. *See id.*

131. *See* Dr. Volker Hassemer, "Welcome remarks", in REDEVELOPMENT OF DERELICT LAND IN EUROPE (European Academy of Urban Environment ed., 1995).

132. *See id.*

133. *See* Dietrich Flicke, "Berlin" in REDEVELOPMENT OF DERELICT LAND IN EUROPE, *supra* note 131, at 44.

134. *See id.*

135. *See id.* at 45.

The most salient example of this approach to sustainability in Berlin is the *Rummelsburger Bucht* development area. This area, in former East Berlin, lies along the River Spree and used to be an industrial wasteland for factories and warehouses.¹³⁶ Like Emscher and Leipzig, city planners are focused on building residential, commercial, and recreational areas linked by a riverside footpath.¹³⁷ The river used to be a border river between East and West Berlin, but with the fall of the wall it presents an opportunity to be viewed once again as a linking element between neighborhoods, places of work, and recreational sites.¹³⁸ Fifty-four hundred new apartments are planned to face the Spree and once the river and banks are completely remediated, water sports including fishing and boating will be available to the area's new residents.¹³⁹ The similarities to the approaches found in Emscher and Leipzig are evident, but the *Rummelsburger Bucht* did not try to retain many aspects of the prior cultural and historical tradition of the region like Emscher. Perhaps this was due to the fact that any reminders of the former East Berlin and East German regime would foster conflict and ill feelings toward the redevelopment plan.¹⁴⁰ This consideration serves as a reminder to brownfield policymakers at the national and European levels to be sensitive and aware of the political and historical forces which could differ between communities. Forming a uniform brownfields policy at the highest levels of government could ignore these important variances.

Coming back to the *Rummelsburger Bucht* project, in 1992, the Berlin Ministry of Urban Development and Environmental Protection set up the *Entwicklungstragergesellschaft Rummelsburger Bucht* (ERB) to plan and collect

136. See Bernd Cronjaeger, *Exemplary redevelopment of a derelict area by the Entwicklungstrager-gesellschaft (development trust company) Rummelsburger Bucht*, in REDEVELOPMENT OF DERELICT LAND IN EUROPE, *supra* note 131, at 49.

137. See *id.* at 50.

138. See *id.* at 50-51.

139. See *id.* at 49-52.

140. See ELIZABETH A. STROM, BUILDING THE NEW BERLIN 10 (2001) ("[T]here have been great efforts to avoid symbolic associations with Berlin's failed regimes.").

the financing sources.¹⁴¹ The initial start-up and decontamination costs came from a trust fund that was made up of acquired and transferred properties within the city, proceeds from their sale, compensatory amounts, support funding, and allocations from the city budget.¹⁴²

Development and construction costs for the ERB after remediation are partly financed by the difference in the initial land value and the predicted end values after redevelopment.¹⁴³ This speculative financing model is an interesting one, but it may be unworkable in the U.S. based on the preconceived risk already associated with brownfields projects. At least one U.S. municipality was prevented from issuing bond measures that were to be ultimately financed by the increase in land value of a redeveloped brownfield site.¹⁴⁴ The entire Rummelsburger Bucht project could not have been possible without funding from the City and Länder of Berlin, which ultimately has a fifty-one percent share in the financing scheme, with its Property Development Company holding a forty-nine percent share.¹⁴⁵ Just like Emscher and Leipzig, redevelopment of derelict sites in Berlin would not be possible without a large government subsidy.

An examination of German brownfield law and practice demonstrates that there is a new commitment to a highly integrated and holistic approach to development in order to foster ecological, economic, and social sustainability. These themes parallel the policy and law of the European Union and their success will continue to be analyzed in the future.

III. COMPARISONS AND CONCLUSIONS

The most appropriate place to start in a comparison of the two approaches is in the legal and structural history in their respective brownfield policies. The United States brownfield policy is undeniably a product of the Compre-

141. See Cronjaeger, *supra* note 136, at 55.

142. See *id.*

143. See *id.*

144. See *City of Hartford v. Kirley*, 493 N.W.2d 45 (Wis. 1992) (holding that tax incremental bonds constitute debt under state constitutional debt limitation and could not be issued).

145. See Cronjaeger, *supra* note 136, at 55.

hensive Environmental Response, Compensation and Liability Act (CERCLA), which was precipitated by the highly publicized Love Canal incident in Niagara Falls, New York, where residents exposed to toxins in the soil suffered from liver abnormalities, birth defects, miscarriages, epilepsy, and other injuries.¹⁴⁶ CERCLA was a compromise bill passed largely out of a public outcry to do something about Love Canal, and it left ambiguity about its reach.¹⁴⁷ Due to the horrific nature of the Love Canal incident, strict liability for all former, current, and future owners became a large aspect of the law. Despite amendments to CERCLA, which tried to lessen the scope of liability and distinguish brownfield projects from Superfund sites, through voluntary cleanup programs and the "innocent landowner defense,"¹⁴⁸ liability remains a major deterrent to brownfield developers.¹⁴⁹

Beyond the legal significance of the link of CERCLA and brownfields in the U.S., the administrative consequences of the situation have further hindered redevelopment. Because the brownfield problem has historically been seen as simply a contamination and environmental problem, much of the brownfield work in the U.S. has been left to local, state, and federal environmental agencies. This singular focus does not allow for the integrated type of approach that Europe and Germany have attempted. Instead of regional urban planning projects like Emscher coordinating brownfield remediation, environmental agencies in the U.S. are forced to make planning decisions, which are outside their area of expertise.

Europe has the benefit of an integrated brownfield policy that was not tied solely to remediation. However, considering notions of fairness, should not public health concerns and holding those responsible for contamination

146. See 2 THE LAW OF HAZARDOUS WASTE: MANAGEMENT, CLEANUP, LIABILITY, AND LITIGATION 12-13 to 12-14 (Susan M. Cooke ed., 1987).

147. See *id.* at 12-12.

148. See generally Donald Berry & Deborah Sivas, *Liability of Parties to Brownfields Transactions Under CERCLA*, in 1 BROWNFIELDS LAW AND PRACTICE: THE CLEANUP AND REDEVELOPMENT OF CONTAMINATED LAND 4-1 (Michael Gerrard ed., 2005). Liability of current owners and operators moved away from strict liability with 1986 and 2002 amendments to CERCLA.

149. See *supra* Introduction and note 3 and accompanying text.

be the top priority? Under the European principle of polluter-pays, relieving prior owners of remediation costs through public subsidization does not seem equitable.¹⁵⁰ But in the U.S., most of the large scale coal and steel companies in “Rust Belt” regions have long since dissolved or filed bankruptcy. With a strict liability system in place, realizing the capital for remediation from a bankrupt company will result in lengthy litigation and delay for projects. It seems impossible that the IBA Emscher project would have been successful if Germany followed a prevalent tort liability system; without large government subsidies from the *Länder* or the EU.¹⁵¹ Large government subsidies are unattainable in the U.S. short of a overhaul of the tax scheme. Liability under federal and state law in the U.S. may be the only means of achieving funding without wide public support for brownfield remediation.

Portland, Oregon is one place in the U.S., with a citizenry and leadership focused on environmental progress, which has had the public support to achieve a successful brownfield policy. Importantly, just as in the case of Emscher and Leipzig, a regional entity was the impetus for the urban development policy in Portland. There, the Metro Council in 1979 set up an Urban Growth Boundary to stem suburban sprawl in the area.¹⁵² As a result of this “line drawing,” developers in Portland were forced to look at new and innovative ways to reuse derelict land within the city.¹⁵³ They redeveloped old rail yards into high-rise apartment buildings and municipal leaders focused on cleaning up the Willamette River while building wildlife and park systems along the waterfront.¹⁵⁴ The city encouraged developers to build four to six story housing projects with shops on the ground floor so that residents would not have to drive to get their coffee and breakfast.¹⁵⁵ The approach in Portland mirrors the three-tiered German and European approach to sustainable city living. Portland

150. See Kushner, *supra* note 99, at 864.

151. See *id.*

152. See EXTREME SITES, *supra* note 101, at 9.

153. See *id.*

154. See *id.*

155. See Randal O'Toole, *Managing Growth Against the Law Yet Another Urban Legend: The Success of Smart Growth*, WIS. ST. J., June 5, 2005, at B1.

even has an advantage over Emscher through its comprehensive transit systems and a citizenry open to non-traditional types of transport.¹⁵⁶ As a visitor to Portland in the late 1990s, I can attest to the extensive use of bicycles and skateboards on Portland's city streets. Portland represents a regional, integrated approach to a broader and comprehensive urban development plan typical of the approach in Europe.

A regional approach is the correct focus to guide U.S. brownfield policy. Regional entities can consider brownfield development and sustainability for an entire metro area better than singular municipalities. Municipal leaders have only the specific interest of the city and constituent in mind when making development decisions. Consolidation or mergers between city and county governments, and establishment of regional councils like Portland's Metro Council are some of the ways in which American localities can regionalize to promote sustainable urban living. However, the drawback of regional governments and special districts is that they are seemingly less politically accountable and could be open to constitutional attacks.¹⁵⁷ Regardless, in analyzing the successes of Emscher and Portland, the regional aspect of both projects cannot be ignored.

A. *Tourism and Waterfront Brownfield Projects*

Another similarity between successful urban brownfield projects, both in the U.S. and in Europe, is that they seemed to be tied to waterfront areas. In all the German case studies previously discussed, and in places like Portland, Baltimore's Inner Harbor, and Kansas City, rivers, lakes, and ocean harbors are usually the centerpiece

156. See *EXTREME SITES*, *supra* note 101, at 9.

157. See, e.g., *State ex. rel. Angel Fire Home & Land Owners Ass'n v. South Cent. Colfax County Special Hosp. Dist.*, 797 P.2d 285 (N.M. Ct. App., 1990) (rejecting the constitutional argument against a special hospital district that did not benefit all taxpayers equally and holding that the district was a general purpose government); *Cunningham v. King County Boundary Review Bd.*, 493 P.2d 811 (Wash. App. 1972) (finding that Review Board decisional procedure did not violate the Fourteenth Amendment).

around which remediation is focused.¹⁵⁸ Waterfront brownfield projects in the U.S. are not without their obstacles. For example, entities interested in waterfront redevelopment usually need to obtain permits from the Army Corps of Engineers to dredge fill material into navigable waters under Section 404 of the Clean Water Act.¹⁵⁹ But permits and other additional administrative burdens do not deter developers from focusing on waterfront redevelopment opportunities because of the high demand for recreational, residential, and commercial amenities at these sites.¹⁶⁰ Waterfronts are also chosen for aesthetic and historical reasons. Ironically, the same waterways that formed the infrastructure responsible for industrial contamination in centuries past are now being manipulated for their beneficial health and commercial impacts on cities.

Some may argue that any health benefits derived from a regenerated waterway are meager. But planners and landscape architects cannot overlook the positive impacts that the natural world can have on its citizens. A hard, dead, concrete environment in a city can form a disconnection between man and his natural environment. The mentality that nature is somewhere "out" in the country and absent from the city needs to be changed if sustainable city life is possible.¹⁶¹ The public needs to understand its role in the ecological process in order to have an appreciation for the natural world and "[t]he rivers and ocean fronts which characterize many cities may become the focus of a new aesthetic quality based on ecological health."¹⁶² Green areas and landscape parks constructed around the Emscher River in the Ruhr and the Willamette

158. See Bernard Weintraub, *Particular Types of Brownfields Sites*, in 1 BROWNFIELDS LAW AND PRACTICE: THE CLEANUP AND REDEVELOPMENT OF CONTAMINATED LAND 32-1 (Michael Gerrard ed., 2005).

159. See *id.* at 32-1 to 32-3; see also Clean Water Act, 33 U.S.C. § 1344 (2000).

160. See Weintraub, *supra* note 158, at 32-9.

161. See generally WILLIAM CRONON, NATURE'S METROPOLIS: CHICAGO AND THE GREAT WEST (1991). Cronon takes a historical look at the rise of commodities with the proliferation of the railroad in the Midwest, arguing that this environmental history formed a disconnect between man and nature within the city.

162. NATURE IN CITIES, *supra* note 54, at 62.

River in Portland¹⁶³ can help to raise ecological awareness and can be a place for exercise, recreation, and reflection for the urban citizen.

In addition to the aesthetic and psychological benefits, brownfield projects focused around waterways can bring restaurants, shops, and tourist attractions to raise a city's economic health. The experience of Bilbao, Spain is the prototypical tourist-centered approach to remediation of a former industrial harbor. Bilbao, the capital of the Basque region in Spain, which was traditionally one of Spain's most industrial regions, was a "declining region" in the 1980s and early 1990s.¹⁶⁴ With funding from the EU, Bilbao's leaders decided to build a Guggenheim museum in 1997, which became the catalyst for development along Bilbao's riverside.¹⁶⁵ The museum brought tourists, and international attention from foreign companies to Bilbao, and the city now rivals Madrid as the financial and automotive center of Spain.¹⁶⁶ Bilbao, like Emscher, looked first to cultural and tourist attractions to invigorate the economic health of their respective regions. What happened in Bilbao is sometimes referred to as the "Bilbao effect," that is, bringing the arts into the region in order to put the locale on the world tourist map and spur development.¹⁶⁷ The city of Hudson, New York in the Hudson Valley is using this approach to drive economic development through a multiplier effect. "The arts, some say, is the new I.B.M. of the region, as old manufacturing towns turn into cultural hubs."¹⁶⁸ The question that emerges from this analysis is if tourism opportunities, the arts, and other amenities which draw national and international attention, are necessary for a successful urban brownfield project?

As explained in Part II, one of the main criticisms of IBA Emscher is that it was an elitist initiative focused on

163. See *EXTREME SITES*, *supra* note 101, at 9.

164. See *Location Studies: Meeting the Enlargement Challenge*, CORPORATE LOCATION, March 2003, at <http://www.corporatelocation.com/default.asp?hID=8&SID=229>.

165. See *id.*

166. See *id.*

167. See Denny Lee, *Havens: A River Runs Through Them*, N.Y. TIMES, May 21, 2004, at F1.

168. *Id.*

tourism instead of on the economic and social well-being of the local community.¹⁶⁹ A brownfield project focused on tourism, cultural and historical traditions, and the arts seemingly will not immediately bring an influx of new jobs into a region. In addition to the amount of jobs that will be brought into a region, the type of jobs that will come will not be well-suited for an unskilled or industrial labor force. The jobs that will be created through tourism and the arts will be retail, commercial, and service jobs. Therefore, in the short-term, the tourism aspects of these types of brownfield project do not adequately aid in the everyday life of the community's citizens. In addition, there can be negative long-term effects of a tourist and art-centered brownfield project. Gentrification, which is the restoration of deteriorated urban property by middle class or affluent people, often resulting in the displacement of lower-income people,¹⁷⁰ can be a real long-term problem in tourist and cultural-focused brownfield projects. The rising property values during and after redevelopment force the poor to move to a different location. Portland, due to its Urban Growth Boundary and successful brownfield redevelopment program, may be the most palpable example of gentrification. The boundary has reduced the supply of housing, while demand for space has skyrocketed.¹⁷¹ The result in the city has been soaring property costs, a lack of low-income and subsidized housing, and a growth in population for localities outside the Urban Growth Boundary. Portland needs to increase its overall housing supply through additional brownfields redevelopment and support municipal programs committed to increasing subsidized housing in order to bring social and economic equity back to the city.¹⁷²

Despite the social and short-term economic arguments against brownfield projects aimed at tourism opportunities, their long-term benefits cannot be ignored. Emscher and

169. See *supra* part II and notes 117-18 and accompanying text.

170. See THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 735 (4th ed. 2000).

171. See generally Editorial, *Encouraging Development Key to Affordable Housing; Subsidized Housing can be Useful, but the Main Goals Should be Increasing the Supply*, PORTLAND PRESS HERALD, Jan. 6, 2005, at A8.

172. See *id.*

Bilbao have, and will use, tourism and the arts to bring long-term economic stability to their regions. One commentator believes that it is only these types of projects that can have lasting success in formerly industrial regions. "The grandiose design of the [Ruhr region's] dramatic attempt to provide itself an economic, environmental and aesthetic makeover is probably *essential* to undo the typically indelible label of 'declining region.' It is this grandiosity that is an essential element of social sustainability."¹⁷³ Raising a region's tax base through tourism brings outside money into a dilapidated area, but it may prove to be unworkable in the U.S. Great Lakes region. Are tourists really going to be attracted to the "Rust Belt" cities of Cleveland, Buffalo, or Gary if they build a Guggenheim museum, a casino, or a Rock and Roll Hall of Fame? The short-term and long-term effects of tourism on brownfield projects need to be at the forefront of planners' and municipal leaders' minds when they make complex development decisions, despite public pressure to act one way or another.

B. Funding Brownfield Projects and the Need for Information Sharing

The European Union's research organizations of CLARINET and RESCUE are integral in the promotion of an integrated, mix-use approach to brownfield redevelopment. Fortunately, U.S. brownfield policymakers and lawyers have recognized the need for sharing of information and successful brownfield practices. The International Brownfield Exchange Program, which began in 1996, brought together brownfield experts from the U.S. and from countries such as the United Kingdom, Denmark, Germany, Canada, and Italy.¹⁷⁴ The Exchange has been a forum to discuss the best tools available for successful brownfield redevelopment in each country, based on the legal and administrative structure in place.¹⁷⁵ Through the Exchange, U.S. policymakers could gain insight on how to

173. Kushner, *supra* note 99, at 869-70 (emphasis added).

174. See *International Leadership: Marketplace of Ideas* (Oct. 2000) available at <http://www.brownfields2002.org/proceedings2000/5-22m.pdf>.

175. See *id.*

shift the focus of American brownfield redevelopment from primarily remediation for industrial uses, into an integrated plan fulfilling residential, occupational, and recreational needs of the community. The U.S. needs to continue to remain open to these types of international exchanges of information, because for post-industrialized countries, the problem of derelict and formerly contaminated land is omnipresent. Unfortunately, international attention around brownfields is overshadowed by other international environmental issues, such as climate change and deforestation, even though contaminated land affects many countries equally and may be a less politically contentious issue.

Although there are many other issues for comparison in this context, the final one that will be addressed is how U.S. and European governments try to promote redevelopment of brownfields over greenfields, which has special significance on urban sprawl. The bulk of U.S. promotion, both federally and at the state level, is in the form of tax incentives, grants, and low-interest loans to mostly private developers. For instance, New York's new Brownfield Program has a multitude of tax incentives for developers who apply to the program and successfully remediate land up to the standard set by the New York State Department of Environmental Conservation (DEC).¹⁷⁶ Unfortunately, some developers have found provisions to exploit in the legislation, passed in 2004, which would give millions of dollars in tax credits to developers on land with minimal contamination. A Times Square developer applied for the program, which could result in one hundred and seventy million dollars in tax credits for a site with questionable contamination levels.¹⁷⁷ The law was drafted without fully understanding its reach, and it had a singular focus on environmental remediation instead of real estate development, planning, and sustainability. The law places the DEC, an environmental agency, as the gatekeeper for a program which has significant state budgetary, planning,

176. See *New York's New Brownfields/Superfund Legislation, Part 2*, ENVTL. L. IN N.Y., (Arnold & Porter, New York, N.Y.) Jan. 2004, at 2.

177. See generally Elizabeth Cady Brown, *A Landmark Brownfields Law Mutates into a Massive Tax Giveaway to the Times and Other Big Developers*, CITY LIMITS MONTHLY, Sept./Oct. 2004, available at <http://www.citylimits.org/content/articles/articleview.cfm?articlenumber=1174>.

and development consequences. It is just another example of how Love Canal and CERCLA have shaped federal and state brownfield law and practice.

Europe, instead of employing tax incentives, promotes brownfield redevelopment through state and government initiatives like the Emscher project. Germany and Europe are committed to preserving city life and the interests of the community through government funding, while the U.S. is committed to private property and aspirations of the individual through tax incentives.¹⁷⁸ These disparate goals exemplify the main differences in brownfield policy and it remains to be seen which approach in the end will best promote redevelopment and reduce urban sprawl. However, the third alternative, used by Portland, is to reduce urban sprawl through compulsion. The Urban Growth Boundary was a "line drawn in the sand" that may prove to be the only way in the U.S. to stop urban sprawl in a culture in love with spacious houses and large manicured lawns. However, the price of drawing this line is the segregation of the poor and the formation of obstacles to buy or rent property. What policymakers are left with is the much-repeated question in many aspects of environmental law: Use the carrot or the stick?

178. See Kushner, *supra* note 99, at 871.